S22 INFRARED SYSTEM

PROGRESS REPORT NO. 24

I INTRODUCTION

Two Model S22 Infrared Scanners have been developed and are to be retrofitted with new analog electronics prior to evaluation. The following report summarizes the monthly progress from 15 April to 15 May 1967.

The only work in process at this time is the production of 100 electronic modules for retrofit. These units were scheduled to be completed by 15 May. However, problems are being experienced in the delivery of one component and poor masks have reduced the deposition yield. Because of these problems a slippage of four weeks has resulted. Integration of the new modules with the S22 System is now rescheduled to start on 15 June.

II PROGRAM STATUS

A. Technical Conferences

No technical conferences, pertaining to the S22 systems, occurred during this period.

B. System Integration

No integration work has been in process during this period.

C. Development Status

1. Thermoelectric Cooler - The spare thermoelectric cooler being procured is not scheduled for delivery until 1 June 1967.

2. Retrofit - The following table shows the present status in the design and production of the required 100 plug-in units.

	Preamp-Filter	Agc	Threshold
Circuit design	(c) complete	(c) complete	(c) complete
Package design	(c)	(c)	(c)
Worse case analysis	(c)	(c)	(c)
Mask fabrication	(c)	(c)	(c)
Deposition	52%	6%	19%
Component delivery	75%	100%	100%
Assembly	11%	6%	8%
Modules	2 engineering evaluation units		

Three problems have shown up in production, other than masks, and these are:

(a) Input Transistor - Some difficulty has been experienced in vendor delivery of low noise input transistors. These problems are now claimed to be under control and Amelco has more than 500 in the process of being shipped.

(b) Zener Regulator Stage - Components from one vendor exhibited an excessive amount of noise at low currents. Device parameters for this stage thus had to be more clearly specified.

(c) R-C Roll Off - Low frequency roll-off of the production AGC units were consistent; however, at a slightly higher frequency than the worse case design tests indicated. Changes are now in process to place this under proper control.

III PROBLEM AREAS

The main problem area at this time is delivery of low noise field effect transistors. Units now are being shipped, however, final qualification must be deomonstrated. The flip-chip devices have not shown consistent low noise performance comparable to the molytab devices used in the past.

S-22 INFRARED SCANNER

PROGRESS REPORT No. 23

I INTRODUCTION

Two Model S-22 Infrared Scanners have been developed for evaluation. The two systems are presently being retrofitted with new analog electronics. This report summarizes the monthly progress from 15 March to 15 April 1967.

At this time the only work in process on the S-22 System is the design and production of the new analog circuits.

II PROGRAM STATUS

A. Technical Conferences

The following technical conferences numbered from program inception took place during this reporting period.

Conference 55: Clay visited Al, 4 April 1967; Subject - Program review and S-22 field tests. Clay requested that an alternate vehicle be investigated for conducting limited tests. The test bed, for which the S-22 was designed, will no longer be available.

B. System Integration

A tentative arrangement has been made with Gene, for him to deliver all system integration data to Al on 25 April 1967. No integration work was in process during this period.

C. Development Status

1. Thermoelectric Cooler - The one thermoelectric cooler in procurement is scheduled for delivery on 1 June 1967.

2. Retrofit - The present status of the microelectronic effort is summarized in the following table.

	PreAmp	Agc	Threshold
Circuit Design	Complete	Complete	Complete
Tolerance Analysis	Complete	Complete	Complete
Mask Layout	Complete	Complete	Complete
Mask Procurement	Complete	Complete	Complete
Package Design	--	Complete	--
Package Procurement	--	Complete	--
*Active Device Procurement	--	(Partial)	--
Design Reports	--	In review	--
Deposition	58%	0	17%
Assembly	0	0	0

* A potential critical pacing item

III PROBLEM AREAS

Transistor flip-chip procurement remains a critical pacing item.

103 BUDGET

TITLE S22 RETROFIT

MILESTONE ▽ LEGEND

11/27/66 ESTIMATED COST TO COMPLETE 7126463

ADDITIONAL CONTRACT COVERAGE 114000

60
50
40
30
20
10

11 18 25 1 8 15 22 29 5 12 19 26 5 12 19 26 2 9 16 23 30 7 14 21 28 4 11 18 25 2 9 16 23 30

1966 1967

NOV DEC JAN FEB MAR APR MAY JUN JUL

BUDGET

ACTUAL CUMULATIVE COMMITMENTS

□ = 5000

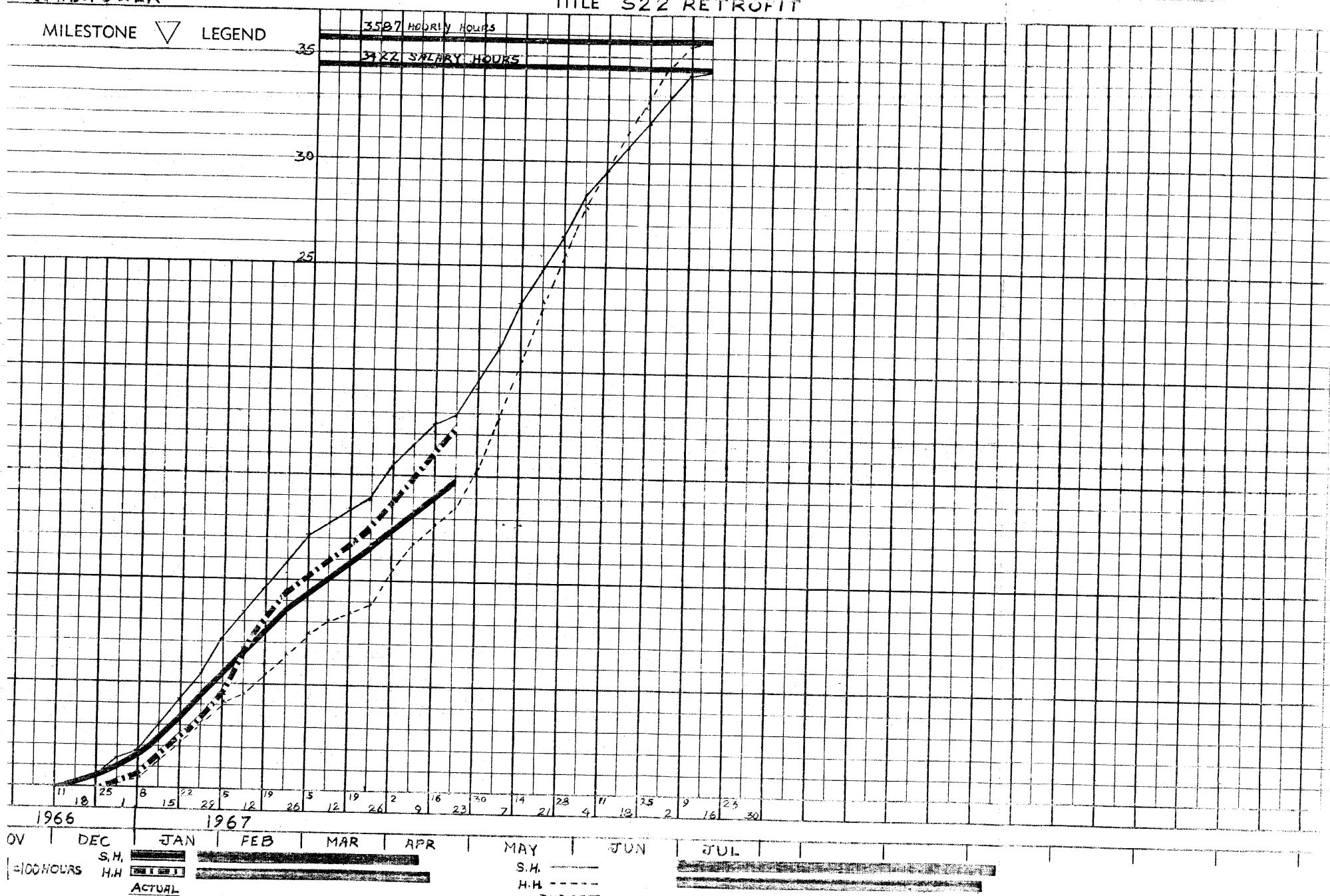
□ = 2000

9000 1300 2000

MISCELLANEOUS ELECTRONICS | PROGRAM MANAGEMENT | RETROFIT | ACCEPTANCE TEST

8-103 MANPOWER

TITLE S22 RETROFIT



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